

## A Patient Centered Care Plan in the EHR: Improving Collaboration and Engagement

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Patients attempting to manage their chronic conditions require ongoing support in changing and adopting self-management behaviors. However, patient values, health goals, and action plans are not well represented in the electronic health record (EHR) impeding the ability of the team (MA and providers) to provide respectful, ongoing self-management support. We evaluated whether a team approach to using an EHR based patient centered care plan (PCCP) improved collaborative self-management planning. An experimental, prospective cohort study was conducted in a family medicine residency clinic. The experimental group included 7 physicians and a medical assistant who received 2 hr of PCCP training. The control group consisted of 7 physicians and a medical assistant. EHR charts were analyzed for evidence of 8 behavior change elements. Follow-up interviews with experimental group patients and physicians and the medical assistant assessed their experiences. We found that PCCP charts had more documented behavior change elements than control charts in all 8 domains ( $p < .001$ ). Experimental group physicians valued the PCCP model and suggested ways to improve its use. Patient feedback demonstrated support for the model. A PCCP can help team members to engage patients with chronic illnesses in goal setting and action planning to support self-management. An EHR design that stores patient values, health goals, and action plans may strengthen continuity and quality of care between patients and primary care team members.

*Keywords:* electronic health record, self management, problem solving, physician patient relationship

It is estimated that 145 million Americans live with one or more chronic conditions. By 2030 this number is predicted to be about 171 million (G. Anderson, 2004). These statistics are troubling when considering how ineffectively chronic conditions are managed in the current model of care (O'Connor et al., 1998; Saaddine et al., 2002). It has been traditional that primary care practices

focus on an acute care paradigm of identification and resolution of medical problems (Mold, Blake, & Becker, 1991). This approach does not accommodate chronic illness management, less than one quarter of patients have the knowledge, skills, and confidence to manage these conditions (Hibbard & Tusler, 2007).

The chronic care model (CCM) identifies several areas needing improvement in the management of chronic conditions (Wagner, Austin, & Von Korff, 1996). These areas include poor care coordination, lack of appropriate follow up, and patients not being engaged as self-managers of their illnesses (Kenny, Smith, Goldschmid, Newman, & Herman, 1993; Perrin et al., 1989; Stockwell, Madhavan, Cohen, Gibson, & Alderman, 1994). To deal with an environment that often does not provide enough support, patients must be encouraged to shift from a passive role to a more active role in managing psychosocial and physical aspects of their illness (Wagner et al., 2001).

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Evidence suggests that teamwork and collaborative problem solving can enhance self-management (Battersby et al., 2010). Problem solving is a behavior change and therapeutic model often used in conjunction with other approaches such as cognitive therapy and motivational interviewing. However, problem solving is a free standing, evidenced based counseling approach well suited for primary care (Oxman, Hegel, Hull, & Dietrich, 2008). Rooted in principles of cognitive science, it involves guiding the patient through a series of cognitive exercises to achieve a goal (Schumann, Sutherland, Majid, & Hill-Briggs, 2011). Effective problem solving requires cocreating a goal and a practical action plan rather than imposing a provider's goals on the patient (Bodenheimer & Handley, 2009; MacGregor et al., 2006). Interventions that monitor patient values, action plans, readiness to change, self-efficacy, and progress are more successful in managing chronic conditions (Wagner et al., 1996). This represents a patient centered approach to care rather than physician directed care (Mold, Hamm, & Scheid, 2003).

There are several barriers to providing effective chronic illness care. One barrier is limited time. Primary care physicians face the challenge of seeing more patients in less time while balancing quality of care and documentation requirements. These pressures lead to a shift in limiting documentation to the bare essentials of what is needed to satisfy billing requirements. Evidence suggests that managing the preventive, chronic, and acute concerns for a panel of 2,500 patients would take a solo provider 24 hrs per day. (Flocke, Frank, & Wenger, 2001; Østbye et al., 2005; Yarnall, Pollak, Østbye, Krause, & Michener, 2003). Another barrier may be that physicians do not have the skills to engage patients in self-management discussions (Rosal et al., 2004; Yarnall et al., 2003). In a residency setting there are other significant barriers including the lack of training, frequency of cross coverage, and annual resident turnover. Patients may feel frustrated by having to often review their values and health goals with new providers because the specifics of their plan are not documented in the electronic health record (EHR; Ventres, Kooienga, Vuckovic, et al., 2006). Most EHRs have no readily available structure to track patient values, form specific action plans, or address barriers and successes. Some evidence indicates that EHR use has not

improved quality of care, representing yet another barrier to effective chronic care management (Romano & Stafford, 2011).

To maintain quality and continuity in patient care, members of the health care team need to share patient information effectively and efficiently with one another. Recent transformation efforts in primary care focuses on "teamlets"—medical assistants or nurses and providers (Bodenheimer & Laing, 2007)—who are aided by new EHR applications (Denomme, Terry, Brown, Thind, & Stewart, 2011). Medical home models emphasize team care and restructuring work flow, so much of the work historically done only by the physician is delegated (P. Anderson & Halley, 2008). By embracing a teamlet model of care, physician and MA/nurse pairs can work together to address a greater proportion of patient needs. MAs/nurses can take on the role of problem-solving guide and, in some situations, serve as a health coach (Bodenheimer & Laing, 2007). Adapting the EHR to train and to prompt the teamlet members to integrate goal setting and action planning into visit documentation may help to improve intervention effectiveness and time management (Glasgow, Bull, Piette, & Steiner, 2004).

This pilot feasibility study, focused on training primary care teamlets to collect patient values and offer self-management support (SMS). We designed a patient centered care plan (PCCP) in the EHR to support this training by prompting the collection of values and the use of SMS skills (problem solving). We predicted that PCCP training would: (a) produce stronger self-management support by increasing problem-solving discussions (goal setting and action planning), (b) provide greater insight into patient values and needs, (c) improve patient experience, and (d) enhance team satisfaction.

## Method

### PCCP Design

This 1-year study took place from September 2009 to August 2010 in a family medicine residency clinic. The University of Washington Human Subjects Division approved the project. During the initial phase of PCCP design, a patient focus group was conducted to aid in PCCP development. We used a convenience sample of patients based on faculty recommendations of patients who were well-known, fre-

quent users of our clinic. The eight focus group patients were unified in their belief about the value of continuity of care, and the patient-physician relationship. It was also important to them that the diverse providers they saw in the same system knew their values, health history, and needs. However, they only offered vague recommendations about designing a PCCP. A literature review and many hours of discussion between research team members shaped the resulting PCCP format into three sections: "About Me," "My Goals," and "My Progress" (see Appendix).

The first section, "About Me," provides the health care team with information about the patient's preferences, values, and includes an area for the patient to list other providers the patient views as part of his or her care team. In addition, the patient and team members complete the following sentence stem: "My health care team and I agree it is important for the people working with me to know the following information."

The second section, "My Goal," prompts a collaborative discussion between members of the health care team and the patient using a problem-solving approach to refine goals into a manageable action plan (Hegel, Dietrich, Seville, & Jordan, 2004). This section includes the following eight specific behavior change elements: (1) general goal (example: weight loss), (2) ongoing activity (example: exercise), (3) specific activity (example: walking, swimming, or biking), (4) frequency of activity (example: three times a week), (5) when the activity would occur (example: before work), (6) barriers to success, (7) assessment of confidence (1 [*low*] to 10 [*high*]), and (8) brainstorming ways to improve confidence.

The third section, "My Progress," is used during follow-up visits or phone calls to track successes, to examine struggles, and to stimulate collaborative decision making between team members and the patient on whether to revise the action plan.

The PCCP training process emphasized upfront agenda setting (Brock et al., 2011; Epstein, Mauksch, Carroll, & Jaen, 2008) to help the patient and teamlet share decision making about time use. The confluence of chronic, acute, and preventive issues can distract providers and patients from protecting time to address self-management (Glasgow, Davis, Funnell, & Beck,

2003). We hoped the PCCP would prompt the provider and patient to integrate self-management discussions into the visit agenda.

To enhance patient engagement, the experimental group physicians and medical assistant were trained in principles of patient centered use of the EHR (Ventres, Kooienga, & Marlin, 2006). It is important to share the screen with the patient, pointing at relevant places, and describing what you, the clinician, are doing. Our aim was to create an interaction in which the patient felt plan ownership by seeing the words of their plan appear on the screen.

### Pilot Phase

The pilot phase included a fourth-year resident (Kavitha Chunchu) working with one medical assistant (MA) seeing a total of 15 patients. Appointment slots were initially lengthened to 40 min to accommodate skill learning and integration of PCCP discussion into clinic flow. The pilot phase was conducted with a paper based PCCP that required additional time to transfer information into the EHR. With practice, the health care team reported increased efficiency and higher satisfaction. This information provided the research team with confidence to begin a controlled trial. Pilot phase patient charts are not included in the study results.

### Patient and Provider Selection

Experimental group and control group patients had to be 18 years old, English speaking, with at least one chronic condition, and have met with a provider designated as the primary care provider (PCP) at least once. Patient selection was not limited to certain chronic conditions but included patients with any condition (diabetes, asthma, depression, hypertension, etc.) requiring ongoing management by a physician. Patient selection was based on matching provider clinic availability with the schedule of the research coordinator. Patient selection was for "next available" patients who met inclusion criteria. Finding patients who had seen a designated PCP at least once was difficult for some providers, so the inclusion criteria was expanded to include patients who had seen the same physician at least twice, even if the physician was not designated as the PCP.

Six physicians, on the same team as the pilot phase physician, made up the experimental

group (four residents, years one to four; three faculty members). Patients in the experimental group were only seen by experimental team providers. The control physicians (three faculty and four residents) and their MA were recruited from a different team than the experimental group. Patients in our clinic see physicians on the same team if their PCP is unavailable so there is very low risk of study contamination. Provider schedules were reviewed prior to each clinic day to find potential patients meeting inclusion criteria. Our research coordinator approached patients to obtain informed consent.

### **Integrating PCCP Into EHR**

PCCP design was limited by several factors. The university computing department placed an unexpected freeze on changing the EHR structure. The freeze not only had a major effect on the design of the PCCP but also delayed the study by 2 months within our 1-year time limit. Rather than designing a PCCP that would automatically populate a visit and be visible when the chart note was opened, the PCCP was placed within a "Social Documentation" section. This led to additional "clicks" in the work flow to access the PCCP. The PCCP could be copied into the current progress note but a lasting version could only be edited in the "Social Documentation" section that was not easily visible when opening the patient's chart. MAs asked patients to fill out a paper version of the "About Me" section before seeing the physician. This section was entered into the "Social Documentation" section of the EHR by the MA at a later time but available for physician review during the visit. In most instances, the MA would begin to work on goal setting with patients. The physician would build on information entered by the MA or begin goal setting and action planning with the patient. These elements could then be inserted into the visit progress note.

### **Training**

Experimental physicians participated in a 2-hr training session that included an introduction to the PCCP design, patient centered behavior change, a video demonstration using the pilot phase teamlet members as role models, and time for computer practice. All seven physicians worked with the same MA. The MA had received training during the pilot phase therefore did not

participate in the training with new physicians. In our clinic, an MA will work with two physicians per clinic. During PCCP integration, the MA worked 1:1 with a physician. Experimental group physicians were allotted 40-min time slots for the first few visits to allow practice for PCCP integration. Neither the control physicians nor their MA received any additional training.

### **Interviews and Chart Analysis**

We used an immersion/crystallization approach (Borkan, 1999) to study interviews and charting. After patient enrollment was completed, semi-structured interviews were conducted with experimental group physicians and the MA. Semistructured phone interviews were held with 12 experimental group patients. Each member of the research team separately examined interview results for themes. Next, the team convened to share perspectives and to arrive at a consensus. The research team members separately reviewed the charts of all experimental group and control group patients including progress notes, problem lists, social histories, and the PCCP. Charts were assessed for the presence of eight behavior change elements. Next, the team members compared results and discussed differences to arrive at agreement on coding for all 58 charts. Because control group charts did not have a well-defined PCCP structure, the research team elected to give a large degree of latitude or "benefit of the doubt" in analysis of control group charts. Any language that suggested that the patient was involved in setting a goal, action planning, or that the provider acknowledged patient preferences was included. For example, a control physician wrote, "Joint pain . . . needs support . . . has been doing knee extension exercises. No improvement. Plan: Joint pain: Begin strengthening . . . 1–5 lb. weights and 20 leg lifts per day." This note fit into the "benefit of the doubt" category because the patient seemed to have a goal, a specific activity, and activity frequency was documented.

### **Statistical Analysis**

Each patient's medical chart was reviewed and documentation of specific health improvement behaviors (goal setting, frequency, barriers, assessment of confidence, level of confidence, and increasing confidence) was re-

corded. The proportion of treatment and control group patients with documentation of each of these activities was compared (no control charts included confidence level). Information about age, gender, the number of documented illnesses, and the number of reasons given for the visit was collected. We compared treatment and control group mean scores of continuous measures using *t* tests and we used chi-square to compare gender distribution.

## Results

The control group consisted of 30 patients and the experimental group had 28 patients. In the experimental group, physicians other than the PCP saw five patients. Table 1 presents group demographic information. In the control group, physicians who were not the designated PCP saw seven patients. There were no significant differences in age, gender, and chronic illness distributions between groups. The number of concerns for a visit was twice as high in the experimental group, most likely because the experimental group MA was trained to elicit and record agenda topics at the beginning of each visit. During the short time frame of the study, only two patients had a follow-up visit preventing us from studying the use of the "My Progress" portion of the PCCP.

Table 2 demonstrates the presence of problem-solving (goals and action plan) elements in control and experimental group charts. The experimental group documented each of eight problem-solving elements (plus confidence level) more frequently ( $p < .001$ ) than the control group. This finding occurred despite "benefit of the doubt" credit for subtle examples of patient centered goal setting. Thirteen of the 28 experimental group charts were from patients seen by the pilot physician (Kavitha Chunchu). To check for effect of prior practice

we conducted a secondary analysis excluding the pilot physician's charts from the experimental trial. Experimental group charts still had significantly more documentation of all eight behavior problem solving elements ( $p < .001$ ). A comparison of documentation between our pilot phase physician and the other experimental group physician charts found no significant differences ( $p > .1$ ). In the experimental group charts, documentation of these elements was not uniform. In eight (29%) charts the elements appeared only in the PCCP section whereas in three (11%) charts the elements appeared only in the other parts of the charts such as the progress note. In 17 charts (61%) behavior change elements appeared in both the PCCP and in other parts of the chart, revealing different recording practices by different providers.

Table 3 reports the experimental group patient responses to "About Me" portion of the PCCP. These results offer insight into the diverse needs, values, and support system strengths that could help future health care providers in supporting patients. An example of a patient-physician interaction illustrating how a patient's values could be communicated to other team members includes:

- Patient: "Hearing what I say but not listening frustrates me."
- Physician: "It is important for her to know that her provider is really listening to her. Always check in after starting a medication, she knows what is going on with her body."

Table 4 lists the themes from individual interviews of experimental group team members and from experimental group patients. Team members felt that training was effective but that the EHR needed to be refined to enhance usability and efficiency. They believed that pa-

Table 1  
*Patient Demographics*

Demographics	Control group	Experimental group	<i>p</i>
Number	30	28	
Gender (% of women)	40	61	.188
Average age	55.6 years	51.1 years	.219
Average no. of chronic illnesses	4.9	5.2	.673
No. of concerns/visit	1.2	2.4	.001



Table 2

*Comparison of Goal Setting Documentation in Control and Experimental Group Charts*

Elements documented	Control <sup>a</sup>	Experimental <sup>b</sup>	<i>p</i>
	% (SD)	% (SD)	
Health care goal (example: weight loss)	0.43 (0.50)	0.96 (0.19)	.001
Ongoing activity (example: exercise)	0.45 (0.50)	0.96 (0.19)	.001
Specific activity (example: walking)	0.34 (0.48)	0.89 (0.32)	.001
How often will activity be done (example: daily)	0.10 (0.31)	0.79 (0.42)	.001
When to do activity (example: after work)	0.07 (0.25)	0.68 (0.48)	.001
Barriers (example: sometimes walks alone)	0.10 (0.31)	0.75 (0.44)	.001
Confidence (assessed or not)	0.00 (0.00)	0.71 (0.46)	.001
Level of confidence <sup>c</sup>	NA	8.30 (1.78)	NA
What can increase confidence (example: walk with coworkers at lunch)	0.00 (0.00)	0.54 (0.51)	.001

<sup>a</sup> *n* = 30. <sup>b</sup> *n* = 28. <sup>c</sup> Based on a scale ranging from 1 (*low*) to 10 (*high*).

tients valued SMS and the enhanced role of the MA. However, success depended on protecting time for the MA to include SMS. Patients appreciated problem-solving support, accepted the expanded role of MAs, and emphasized the importance of continuity of care and intrateam communication.

### Discussion

We predicted that combining didactic training with EHR prompts would produce changes in team member-patient interactions demonstrated by changes in chart documentation. Chart review suggests that the patients in the experimental group were more consistently exposed to problem solving (goal setting and action plan development), although this exposure did not occur very often, if at all, in the control group. Patient interview analysis and responses to the “About Me” section suggests that the PCCP is aligned with patient preferences for continuity, feeling known, respected, and want-

ing assistance in building a viable self-management plan. Feedback from the experimental group physicians suggests that a PCCP can be a useful training and clinical tool with proper staffing ratios and time for collaborative problem solving and follow up. In addition, an EHR model that is user friendly and better integrated will enhance experience and efficiency. Experimental physicians and the MA indicated that training was adequate; however, some patients did not seem to understand goal setting language, suggesting the need for more comprehensive training.

The PCCP is both a training tool and a documentation tool. Chart review revealed dramatic differences in documentation of self-management action plan details between the intervention and control groups. One can speculate that many of the problem-solving elements were part of the control group interactions but not documented. This is doubtful because the experimental group action plan documentation outside of the PCCP section was qualitatively dif-

Table 3

*Experimental Group: “About Me” (Patient Preferences and Support System Members)*

Patient support system and values	% or <i>n</i> (SD)
Indicated preference for how to be addressed	93
Indicated needs help understanding health information	36
Indicated religion/spirituality played role in health	54
Identified others in household	65
No. individuals supportive of health goals	2.54 (1.21)
No. of additional care providers	1.43 (2.75)
Something important about caring for me that that should be conveyed to other members of the health care team	35

Table 4

*Experimental Group Team Member and Patient Themes From Individual Interviews***Team members**

- It is important to allocate time for training/practice of PCCP use
- Teamlets should be trained together to understand role overlap and flexibility
- MAs need more time to work with patients and should only work with one physician at a time
- Patient activation and provider comfort with integrating the PCCP will affect PCCP adoption
- Design of the PCCP in the EHR must be enhanced to maximize usability
- Patients and physicians recognize the MA as part of team in fulfilling the purpose of the PCCP
- PCCP should help enhance continuity between providers in a training setting
- Patients and providers may not have a shared language or conceptual understanding about health care goal setting; therefore, training needs to address patient understanding and receptivity for creating health goals.

**Patients**

- Patients want to be known as a person with individual needs and values
- Trust in the team is important
- Patients felt appreciative that physicians helped with problem-solving and managing chronic conditions
- Some patients were not able to distinguish between setting goals and simply working on chronic illness
- All patients accepted MAs asking about health concerns and goals
- It is hard to transition from one provider to another

*Note.* PCCP = patient centered care plan; MA = medical assistant; EHR = electronic health record.

ferent than control charts. Furthermore, evidence suggests most primary care encounters do not include these self-management details because of limited time and minimal team member training (Østbye et al., 2005; Rosal et al., 2004). If action plan elements were present in control group visits but not recorded, this reveals a key barrier to effective self-management support by teams. Not including these details can prevent team members from accurately reinforcing health behavior change and helping patients revise action plans over time. Although we did not measure continuity, these results suggest that self-management details would be passed from one provider to another through the PCCP. Transfer of this information is particularly valuable in residency clinics in which continuity is more sporadic than in community practices. Ongoing self-management support would be heavily dependent on PCCP design, EHR integration, team training, and reinforcement.

In adopting new workflows, there is always concern about increasing time demands. The PCCP supports a joint effort of the provider and the MA/nurse, with the MA/nurse working in an enhanced role. Consistent with current efforts to enhance the role of MAs in primary care, MAs in our study worked directly with patients to define goals and, in some instances develop an action plan. The expanded role of the MA allowed physicians to review goals and move efficiently to cocreate and revise action plans.

Future development efforts should focus on improved EHR integration by designing formats that alert team members to PCCP existence when opening the chart. PCCP forms should auto populate the “After Visit Summary” (AVS) or the patient instruction sheet. In converse, to maximize efficiency, PCCP entry should be available through the AVS or patient instruction pages and autopopulate a freestanding PCCP form. This bidirectional design would accommodate inevitable variations in workflow. The addition of a secure “patient portal” into the EHR may help increase efficiency and patient engagement by allowing patients to fill in “About Me” information, create a visit agenda, establish health goals, or provide “My Progress” updates. Adding registry functionality to support proactive follow-up between face-to-face visits is needed to support behavior change. However, consistent registry use would require changes in reimbursement design from our current fee for service model to cover additional staff time. Health care systems with integrated medical records could use designs like the PCCP to help patients feel known across primary care, specialty, and inpatient settings.

### **Limitations and Challenges**

We faced several hurdles during this study. Information technology issues delayed the start of

the study and prevented us from creating a more user-friendly PCCP. Subject inclusion criteria slowed patient recruitment, contributing to a reduced sample size. The short span of this study and high faculty and resident turnover did not allow for studying patient progress at follow-up, health outcomes, or sustained PCCP use by teamlets. The small sample size prevented a more robust assessment of patient experience. In our residency, the MA often works with two physicians at a time; this prevents the MA from having time to consistently check on the "About Me" section or begin goal setting. These barriers prevented full optimization of the PCCP. Although these implementation challenges may be common, they are surmountable and we hope our experience will encourage continued experimentation to provide SMS through teamwork and enhanced EHR functionality.

### Conclusions

The Patient Protection and Affordable Care Act and models of the patient centered medical home emphasize personalized care to enhance patient engagement (Dinan, Simmons, & Snyderman, 2010). Training MA/nurse-physician teamlets to use a patient centered care plan in the EHR is a relatively simple intervention changing the content of patient interactions through improving patient engagement. Sustained use will require ongoing reinforcement and improved EHR designs with adequate technology support. Information in the "About Me" section should be useful in helping patients feel known and respected when moving between inpatient and outpatient locations. Our pilot results suggest that an embedded PCCP in an EHR may help train team members by prompting collaborative problem solving with patients to promote self-management. Further research should assess the impact of PCCP integration on continuity of care, health behavior change, patient experience, and health outcomes. We hope our work helps others in their efforts to transform the practice of primary care within an integrated health care neighborhood.

### References

- Anderson, G. (2004). *Chronic conditions: Making the case for ongoing care*. Retrieved from <http://www.partnershipforsolutions.org/DMS/files/chronicbook2004.pdf>
- Anderson, P., & Halley, M. D. (2008). A new approach to making your doctor-nurse team more productive. *Family Practice Management*, 15(7), 35–40. Retrieved from <http://www.aafp.org/fpm/2008/0700/p35.html>
- Battersby, M., Von Korff, M., Schaefer, J., Davis, C., Ludman, E., Greene, S. M., . . . Wagner, E. H. (2010). Twelve evidence-based principles for implementing self-management support in primary care. *Joint Commission Journal on Quality and Patient Safety*, 36, 561–570. Retrieved from <http://www.familycarenetwork.com/files/Battersby%2012%20EB%20principles%20self%20mang%20in%20PC.pdf>
- Bodenheimer, T., & Handley, M. A. (2009). Goal-setting for behavior change in primary care: An exploration and status report. *Patient Education and Counseling*, 76, 174–180. doi:10.1016/j.pec.2009.06.001
- Bodenheimer, T., & Laing, B. Y. (2007). The teamlet model of primary care. *Annals of Family Medicine*, 5, 457–461. doi:10.1370/afm.731
- Borkan, J. (1999). Immersion/crystallization. In B. Crabtree & W. Miller (Eds.), *Doing qualitative research* (2nd ed., pp. 179–194). Thousand Oaks, CA: Sage.
- Brock, D. M., Mauksch, L. B., Witteborn, S., Hummel, J., Nagasawa, P., & Robins, L. S. (2011). Effectiveness of intensive physician training in upfront agenda setting. *Journal of General Internal Medicine*, 26, 1317–1323. doi:10.1007/s11606-011-1773-y
- Denomme, L. B., Terry, A. L., Brown, J. B., Thind, A., & Stewart, M. (2011). Primary health care teams' experience of electronic medical record use after adoption. *Family Medicine*, 43, 638–642.
- Dinan, M. A., Simmons, L. A., & Snyderman, R. (2010). Commentary: Personalized health planning and the Patient Protection and Affordable Care Act: An opportunity for academic medicine to lead health care reform. *Academic Medicine*, 85, 1665–1668. doi:10.1097/ACM.0b013e3181f4ab3c
- Epstein, R. M., Mauksch, L., Carroll, J., & Jaen, C. R. (2008). Have you really addressed your patient's concerns? *Family Practice Management*, 15(3), 35–40.
- Flocke, S. A., Frank, S. H., & Wenger, D. A. (2001). Addressing multiple problems in the family practice office visit. *Journal of Family Practice*, 50, 211–216.
- Glasgow, R. E., Bull, S. S., Piette, J. D., & Steiner, J. F. (2004). Interactive behavior change technology. A partial solution to the competing demands of primary care. *American Journal of Preventive Medicine*, 27(Suppl. 2), 80–87. doi:10.1016/j.amepre.2004.04.026



- Glasgow, R. E., Davis, C. L., Funnell, M. M., & Beck, A. (2003). Implementing practical interventions to support chronic illness self-management. *Joint Commission Journal on Patient Quality and Safety*, 29, 563–574.
- Hegel, M. T., Dietrich, A. J., Seville, J. L., & Jordan, C. B. (2004). Training residents in problem-solving treatment of depression: A pilot feasibility and impact study. *Family Medicine*, 36, 204–208.
- Hibbard, J. H., & Tusler, M. (2007). Assessing activation stage and employing a “next steps” approach to supporting patient self-management. *Journal of Ambulatory Care Management*, 30(1), 2–8.
- Kenny, S. J., Smith, P. J., Goldschmid, M. G., Newman, J. M., & Herman, W. H. (1993). Survey of physician practice behaviors related to diabetes mellitus in the U.S. Physician adherence to consensus recommendations. *Diabetes Care*, 16, 1507–1510. doi:10.2337/diacare.16.11.1507
- MacGregor, K., Handley, M., Wong, S., Sharifi, C., Gjeltrema, K., Schillinger, D., . . . Bodenheimer, T. (2006). Behavior-change action plans in primary care: A feasibility study of clinicians. *Journal of the American Board of Family Medicine*, 19, 215–223. doi:10.3122/jabfm.19.3.215
- Mold, J. W., Blake, G. H., & Becker, L. A. (1991). Goal-oriented medical care. *Family Medicine*, 23, 46–51.
- Mold, J. W., Hamm, R., & Scheid, D. (2003). Evidence-based medicine meets goal-directed health care. *Family Medicine*, 35, 360–364.
- O'Connor, P. J., Desai, J., Rush, W. A., Cherney, L. M., Solberg, L. I., & Bishop, D. B. (1998). Is having a regular provider of diabetes care related to intensity of care and glycemic control? *Journal of Family Practice*, 47, 290–297.
- Office of the Legislative Counsel. (2010). Patient Protection and Affordable Care Act. <http://www.healthcare.gov/law/full/>
- Østbye, T., Yarnall, K. S., Krause, K. M., Pollak, K. I., Gradison, M., & Michener, J. L. (2005). Is there time for management of patients with chronic diseases in primary care? *Annals of Family Medicine*, 3, 209–214. doi:10.1370/afm.310
- Oxman, T. E., Hegel, M. T., Hull, J. G., & Dietrich, A. J. (2008). Problem-solving treatment and coping styles in primary care for minor depression. *Journal of Consulting and Clinical Psychology*, 76, 933–943. doi:10.1037/a0012617
- Perrin, J. M., Homer, C. J., Berwick, D. M., Woolf, A. D., Freeman, J. L., & Wennberg, J. E. (1989). Variations in rates of hospitalization of children in three urban communities. *New England Journal of Medicine*, 320, 1183–1187. doi:10.1056/NEJM198905043201805
- Romano, M. J., & Stafford, R. S. (2011). Electronic health records and clinical decision support systems: Impact on national ambulatory care quality. *Archives of Internal Medicine*, 171, 897–903. doi:10.1001/archinternmed.2010.527
- Rosal, M. C., Ockene, J. K., Luckmann, R., Zapka, J., Goins, K. V., Saperia, G., . . . Donnelly, G. (2004). Coronary heart disease multiple risk factor reduction. Providers' perspectives. *American Journal of Preventive Medicine*, 27(Suppl. 2), 54–60. doi:10.1016/j.amepre.2004.04.020
- Saaddine, J. B., Engelgau, M. M., Beckles, G. L., Gregg, E. W., Thompson, T. J., & Narayan, K. M. (2002). A diabetes report card for the United States: Quality of care in the 1990s. *Annals of Internal Medicine*, 136, 565–574.
- Schumann, K., Sutherland, J., Majid, H., & Hill-Briggs, F. (2011). Evidence-based behavioral treatments for diabetes: Problem-solving therapy. *Diabetes Spectrum*, 24, 64–69. doi:10.2337/diaspect.24.2.64
- Stockwell, D. H., Madhavan, S., Cohen, H., Gibson, G., & Alderman, M. H. (1994). The determinants of hypertension awareness, treatment, and control in an insured population. *American Journal of Public Health*, 84, 1768–1774. doi:10.2105/AJPH.84.11.1768
- Ventres, W., Kooienga, S., & Marlin, R. (2006). EHRs in the exam room: Tips on patient-centered care. *Family Practice Management*, 13(3), 45–47.
- Ventres, W., Kooienga, S., Vuckovic, N., Marlin, R., Nygren, P., & Stewart, V. (2006). Physicians, patients, and the electronic health record: An ethnographic analysis. *Annals of Family Medicine*, 4(2), 124–131. doi:10.1370/afm.425
- Wagner, E. H., Austin, B. T., Davis, C., Hindmarsh, M., Schaefer, J., & Bonomi, A. (2001). Improving chronic illness care: Translating evidence into action. *Health Affairs (Millwood)*, 20(6), 64–78. doi:10.1377/hlthaff.20.6.64
- Wagner, E. H., Austin, B. T., & Von Korff, M. (1996). Improving outcomes in chronic illness. *Managed Care Quarterly*, 4(2), 12–25.
- Yarnall, K. S., Pollak, K. I., Østbye, T., Krause, K. M., & Michener, J. L. (2003). Primary care: Is there enough time for prevention? *American Journal of Public Health*, 93, 635–641. doi:10.2105/AJPH.93.4.635

(Appendix follows)

## Appendix

### Patient Centered Care Plan

#### “About Me” (Patient Preferences, Needs, and Values)

- A. I prefer to be called \_\_\_\_\_
  - B. I speak (LANGUAGE) as my main language. \_\_\_\_\_
  - C. I sometimes need help understanding written information about my health (YES/NO). \_\_\_\_\_
  - D. I live with \_\_\_\_\_
  - E. I believe the following person(s) in my life are supportive of my health care goals: \_\_\_\_\_
  - E. Religion/spirituality may impact my healthcare in the following way: \_\_\_\_\_
  - G. My health care team and I agree it is important for the people working with me to know the following information (Consider working with your MA & provider to fill out this section): \_\_\_\_\_
  - H. In addition to my health care team at Family Medicine, others important to my care are (ex: Cardiologist, Mental Health Provider, Naturopath, or any provider you see regularly). \_\_\_\_\_
- Name Discipline/Specialty Location
- 1. \_\_\_\_\_
  - 2. \_\_\_\_\_
  - 3. \_\_\_\_\_

#### “My Goals” (Personal Health Care Goals)

These health care goals represent what you want to do to live a healthy life as well as the areas of your health that you want to monitor and manage.

- 1. My Health Care Goal #1: (Describe your health care goal as specifically as possible as well as why this goal is important to you) \_\_\_\_\_
- 2. Health care goals are most often accomplished by breaking them down into small, specific steps. \_\_\_\_\_

My Ongoing Health Activities: What areas do you need help with in order to reach your health care goal?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

3. There are often several steps to reaching a goal. Consider the options and chose one of the above areas on which you would like to work.

My Ongoing Action Steps

- a. What I will do: \_\_\_\_\_
- b. How often? \_\_\_\_\_
- c. When? \_\_\_\_\_
- d. Potential barriers? \_\_\_\_\_
- 4. On a scale of 1 (*low*) to 10 (*high*) my confidence in reaching this goal is \_\_\_\_\_
- 5. What can help increase my confidence? \_\_\_\_\_

(Appendix continues)

**“My Progress” (My Health Care Goal Successes, Challenges)**

My Health Care Goal:

Date:

Successes:

Challenges:

Does the goal need to be revised? (Y/N):

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